

A New Species of *Debregeasia* (Urticaceae–Boehmerieae) from Asia and a New Record of *D. wallichiana* for China

Chia-Jui Chen

Institute of Botany, Academia Sinica, Xiangshan, Beijing 100093, People's Republic of China

Debregeasia Gaudich., a member of the subtribe Oreocnidinae C. J. Chen of the tribe Boehmerieae (Chen, 1983), consists of six species instead of four that were reported by Wilmot-Dear (1988). The present paper describes a new species, *D. orientalis* C. J. Chen, from eastern Asia and reports *D. wallichiana* as new for China.

Debregeasia orientalis C. J. Chen, sp. nov. TYPE: China. Southeastern Sichuan: Nanchuan Co., Sanquan, Longguxi, 550 m, along streams, 27 Mar. 1957, G. F. Li 60238 (holotype, PE; isotype, SZ).

Debregeasia longifoliae affinis, a qua imprimis differt florescentia coetanea vel praecoce in vere, inflorescentiis e ramulis vetioribus praecedentibus, foliis angustioribus petiolis brevioribus, pubescentia ex trichomatibus plerumque brevioribus adpressisque constante.

Dioecious shrub 1–2.5 m tall. Branches sparsely to densely pubescent with short, usually appressed, fine trichomes. Leaves lanceolate to linear-lanceolate, 6–15(–24) × (0.6–)1.2–4.7(–5.2) cm, acuminate at apex, rounded or slightly cuneate at base, usually very finely serrulate, sparsely pubescent or glabrous adaxially, gray tomentose between veins abaxially, the lateral veins 4–7 on each side; petioles 0.5–1.5(–2.4) cm, with pubescence similar to that of branches; stipules oblong-ovate, 0.5–0.8 mm, bifid at apex. Inflorescences 0.6–1.5 cm, axillary, once or twice dichotomously branched, pedunculate or rarely sessile, the rachis with pubescence similar to that of branches. Flowers in dense globose clusters; male flowers 3–5 mm diam., 4-merous; female flowers 1.5–2.0 mm diam., subtended by triangular to obovate bracts 0.2–0.6 mm long, the perianth tubular, succulent. Fruit ovoid, slightly compressed, 0.2–0.6 mm long, with persistent, orange, fleshy perianth.

Debregeasia orientalis is distributed in Japan, eastern and southern China, northeastern India, Bhutan, and Nepal; it grows in wet places of mountains, especially along streams, rivers, ditches, lakes, ponds, and well-watered mountainsides at altitudes of 500 to 3,500 m; flowering February through May; fruiting June into October.

Paratypes. JAPAN. HONSHU: Hyogoken, Murata & Nishimura 67706 (GH); Mt. Kiyosumi, Nakaike 15527 (MO). KYUSHU: Kagoshima Pref., Deguehi 4747, 6599 (GH). SHIKOKU: Ehime Pref., Murata 15080 (GH). RYUKYU ISLAND: Okinawa, Wilson 8103 (GH). CHINA. TAIWAN: Taipei, Huang 2435 (GH, MO); Taihoku, 24 Mar. 1929, Sasaki s.n. (GH); Hualian Co., Lai et al. 13313, 13314 (GH); Taichung Co., Lishan, Kuo 51131 (MO). SHAANXI: Ankang, Liou 8271 (PE). GANSU: SE Gansu, Wang 80044 (PE). GUANGXI: Lingyuan Co., Steward & Cheo 408 (GH). HUNAN: Yuanling Co., Liu 56 (GH). HUBEI: Ichang Co., Henry 1201 (GH, K); Badong Co., Chow 620 (PE); Xingshan Co., Jiang et al. 217 (GH). SICHUAN: Chengkou Co., Dai 1000105, 1000198, 1000227, 1000439 (PE, SZ); Wuxi Co., Yang 58263 (PE, SZ); Chongqi Shi, Jinyun Shan, Huang 1008 (PE); Pingwu Co., Tsiang 10083 (PE); Kuan Xian Co., Wu 33778 (PE); Leshan Co., Chen et al. 139 (PE, KUN); Emei Mt., Fang 13936 (PE, SZ); Pingshan Co., Wang 22708 (PE); Puge Co., Guan 6098, 9286 (PE); Hongya Co., Yiao 2053 (PE); Simian Co., Hsien 40577, 40664 (PE, SZ); Xican Co., Yu 1118 (PE); Tianquan Co., Yu 1821 (PE); Baoxing Co., Kuan et al. 2526 (PE); Kangdiang Co., Chow 9031, 9513 (GH); Jiulong Co., Wang 4527 (PE, SZ); Muli Co., Feng 2851 (KUN, PE). GUIZHOU: Zhang'an Co., Tsoong 349 (PE); Shiyang Co., Tsoong 421 (PE); Tongzi Co., Tsiang 4952 (GH, PE); Pingbai Co., Tsoong 1252 (PE). YUNNAN: Dongchuan Co., Lang 277 (PE); Shungming Co., Yu 16495 (PE); Kunming Shi, Chen 218 (PE); Guangnan Co., Wang 87215, 87323 (PE); Kaiyuan Co., Tsai 53016, 53112 (KUN, PE); Mengzi Co., Henry 600, 10356 (MO); Dali Co., Ching 22910 (PE); Pingbian Co., Tsai 62235 (PE); Jingdong Co., Xu 59-4404 (PE); Zhengkaing Co., Wang 72416 (PE); Lijiang Co., He 20145 (PE); Zhongdian Co., Feng 1057 (KUN, PE); Weixi Co., Wang 63571 (GH, PE), Wang 64253 (PE); Gongshan Co., Yu 8386 (PE). XIZANG (TIBET): Tangmai, Ying & Hong 99, 776 (PE). INDIA. Kumaon, Strachey et al. 12 (GH, K); Rejhur, 10 Oct. 1904, Hole s.n. (GH). BHUTAN. Khagra valley near Kokti Samchi distinct, Grierson & Long 3403 (GH). NEPAL. Tusare, Grierson & Long 3040 (GH); 22 km S of Chimakothi between Phuntsholing and Thimphu, Bartholomew & Boufford 3978 (GH).

Debregeasia orientalis is widespread in the eastern Asian temperate and subtropical zones, and its common Chinese name is “shuima.” Many authors (e.g., Weddell, 1869; Hooker, 1888; Sargent, 1916; Hara, 1966) misidentified the species as *D. edulis*, but as Wilmot-Dear (1988) clearly pointed out, the type of the latter should be referred to the genus *Oreocnide* Miq. Wilmot-Dear did not describe this entity as a new taxon of *Debregeasia*. Instead, she

referred it to *D. longifolia*, which she considered to show considerable variation in some characters, most notably leaf shape and indumentum. The new species is distinct from *D. longifolia* and is readily distinguished in having narrower leaves, shorter petioles, and appressed pubescence. Furthermore, ranges of the two species hardly overlap; *Debregeasia orientalis* is distributed in Japan, eastern and southern China, northern India, Bhutan, and Nepal, whereas *D. longifolia* grows in southwestern China, India, Bangladesh, Sri Lanka, Indonesia, the Philippines, and Indochina.

Debregeasia orientalis and *D. longifolia* are largely reproductively isolated in these areas, and they occur at different altitudes and bloom in different seasons. While *D. longifolia* blooms in late summer and autumn, the flowers of *D. orientalis* appear only in spring before or with the new leaves. The branches of *D. orientalis* have no inflorescences on the new year's growth, while those of *D. longifolia* bear inflorescences to the tips. These differences have not been previously noted.

Debregeasia wallichiana (Wedd.) Wedd., which is distributed in Nepal, Sikkim, Bhutan, eastern Bangladesh, India (western Ghats and northeastern India), Sri Lanka, northern Burma, Thailand, and Cambodia, is reported here for the first time from China. The new record is based on the following collection: China. Yunnan: Yiwu, Mengla Co., Xishuangbana District (21°44'N, 101°34'E), 800 m, limestone woods, 12 July 1978, *J. H. Zhang 19252* (GH). This locality represents the northeasternmost limit of the species.

Debregeasia orientalis and *D. wallichiana* are distinguished from the remaining species in the genus by the following key.

Key to the species of *Debregeasia*

- 1a. Leaves broadly ovate, elliptic, or cordate; fruiting perianth membranaceous.
 - 2a. Leaves usually elliptic; branches without leaf scars, spreading hirtellose *D. elliptica* C. J. Chen
 - 2b. Leaves broadly ovate or cordate; branches with leaf scars, appressed pubescent.
 - 3a. Branches with fleshy, scalelike protuberances or warts; inflorescences to 3

- cm; leaf secondary veins in 3-5 pairs *D. squamata* King ex Hook. f.
- 3b. Branches without protuberances or warts; inflorescences more than 5 cm; leaf secondary veins in 5-8 pairs ..
..... *D. wallichiana* (Wedd.) Wedd.
- 1b. Leaves lanceolate, sometimes narrowly ovate or oblong; fruiting perianth succulent.
 - 4a. Branches spreading pubescent; at least some inflorescences on present year's branches; flowering August to December
..... *D. longifolia* (Burm. f.) Wedd.
 - 4b. Branches usually appressed pubescent; all inflorescences on branches of previous seasons; flowering February through May.
 - 5a. Leaves densely white tomentose beneath, fine veins invisible; inflorescences sessile
..... *D. saeneb* (Forssk.) Heppe & Wood
 - 5b. Leaves gray tomentose beneath, fine veins visible; inflorescences usually pedunculate *D. orientalis* C. J. Chen

Acknowledgments. I am grateful to Billie L. Turner and Steve Ginzburg (TEX), as well as to Ihsan Al-Shehbaz (MO), for comments on the manuscript and to W. T. Wang (PE) for confirming the necessity of this new species. The initial research was undertaken at the Institute of Botany, Academia Sinica, Beijing, under the National Natural Science Foundation of China, with additional support from the May Scholarship Fund. Thanks are also due to Peter H. Raven and William Tai (MO) for their kind encouragement and advice, and to David Boufford (GH), Guy Nesom (TEX), James C. Solomon (MO), C. M. Wilmot-Dear (K), and X. Y. Zhu (PE) for help during the work.

Literature Cited

Chen, C. J. 1983. New taxa of subtrib. Oreocnidinae C. J. Chen (Urticaceae) from China. *Acta Phytotax. Sin.* 21: 473-478.

Hara, H. 1966. *Flora of Eastern Himalaya*. University of Tokyo, Tokyo.

Hooker, J. D. 1888. Urticaceae. Pp. 477-594 in *Flora of British India*, volume 5. Reeve, London.

Sargent, C. S. 1916. *Plantae Wilsonianae*, volume 3. Univ. Press, Cambridge, Massachusetts.

Weddell, H. A. 1869. Urticaceae. In: A. P. De Candolle, *Prodromus* 6(1): 235. Trettel & Würtz, Paris.

Wilmot-Dear, C. M. 1988. An account of the genus *Debregeasia* (Urticaceae-Boehmerieae). *Kew Bull.* 43: 673-692.